

Amendments to the Claims

The following claims will replace all prior versions of the claims in this application:

1. **(Currently Amended)** A method for obtaining traffic information using billing information of a mobile terminal, comprising the steps of:
 - receiving call data based on a telephone call made by the terminal on a highway;
 - extracting ~~unique information of the terminal~~ information from the received call data;
 - requesting ~~that~~ position information be transmitted at unit-time intervals for a position tracking operation for the terminal according to the extracted ~~unique-terminal~~ information of the terminal;
 - tracking a moving path and time of the terminal between base stations according to the transmitted position information; and
 - producing an average speed per hour between base stations according to the tracked moving path and time.
2. **(Currently Amended)** The method as set forth in claim 1, wherein the base stations are installed side-by-side and managed on a highway.
3. **(Currently Amended)** The method as set forth in claim 1, wherein the ~~specified~~ extracted terminal information ~~of the terminal is~~ includes a terminal identification number.
4. (Original) The method as set forth in claim 1, wherein the unit-time intervals for the position tracking operation associated with a position information registration request are maintained as 30-second intervals.
5. (Original) The method as set forth in claim 1, wherein the position information is transmitted together with a wakeup signal.

6. **(Currently Amended)** The method as set forth in claim 1, wherein a predetermined number of sample object is selectively extracted on a section-by-section basis or in each section when the ~~unique information of the terminal~~ information is extracted from the received call data.

7. **(Currently Amended)** The method as set forth in claim 6, wherein the section is formed by a group of one to seven base stations aligned side-by-side.

8. (Original) The method as set forth in claim 6, wherein there is at least one sample object on a section-by-section basis.

9. (Original) The method as set forth in claim 6, wherein an operation for tracking a lower-priority sample object is terminated when sample objects are concentrated on the section-by-section basis.

10. (Original) The method as set forth in claim 9, wherein the number of sample objects in a corresponding section is increased for a predetermined time, a tracking operation for normally roving sample objects is carried out and a tracking operation for another sample object is terminated, when sample objects are concentrated on the section-by-section basis and an operation for tracking the sample object is terminated the predetermined number of times.

11. (Original) The method as set forth in claim 6, wherein an operation for tracking a lower-priority sample object is carried out and an operation for tracking a first priority sample object is terminated, when sample objects are concentrated on a section-by-section basis due to a difference between distances of sections and a difference between moving speeds of the sample objects.

12. (Original) The method as set forth in claim 1, wherein the average speed per hour between the base stations is produced by dividing a distance between the base stations based on the moving path by the moving time.

13. (Original) The method as set forth in claim 1, wherein the average speed per hour is estimated as a maximum speed on a highway when no call data is received when receiving the call data.

14. (Original) The method as set forth in claim 1, wherein the step of producing the average speed per hour between the base stations comprises the step of: adding a reference time to a unit-time interval for the position tracking operation when a movement between the base stations is not present, and producing the result of the addition.

15. (Original) The method as set forth in claim 14, wherein the reference time is 2 minutes.

16. (Original) The method as set forth in claim 2, further comprising the step of:
terminating the tracking operation when a setup operation is carried out between the terminal and a different base station other than the base stations installed and managed on the highway.

17. (Original) The method as set forth in claim 16, wherein the tracking operation is terminated when the setup operation is carried out between the terminal and the different base station other than the base stations installed and managed on the highway twice or more.

18. (Original) The method as set forth in claim 2, wherein the base stations installed and managed on the highway have one sector dedicatedly assigned for the highway, respectively.

19. (**Currently Amended**) A method for obtaining traffic information using billing information of a mobile terminal, comprising the steps of:

receiving call data based on a telephone call attempted by the terminal on a managed highway;

extracting ~~unique information of the terminal~~ information from the received call data;

determining whether handoff data has been generated according to the extracted ~~unique~~
terminal information ~~of the terminal~~;

if the handoff data has been generated, tracking a roving path and time of the terminal
between base stations on the managed highway according to a handoff signal; and

producing an average speed per hour between the base stations according to the tracked
moving path and time.

20. **(Currently Amended)** The method as set forth in claim 19, wherein the base
stations are side-by-side installed and managed on ~~a highway~~the highway.

21. (Original) The method as set forth in claim 19, further comprising the step of:
terminating the tracking when the terminal terminates the telephone call.

22. (Original) The method as set forth in claim 19, further comprising the step of:
if the handoff data has not been generated, terminating the tracking.

23. **(Currently Amended)** The method as set forth in claim 19, wherein the ~~specified~~
~~information of the terminal is~~ terminal information includes a terminal identification number.

24. (Original) The method as set forth in claim 19, wherein the average speed per hour
between the base stations is produced by dividing a distance between the base stations based on
the moving path by the roving time.

25. **(Currently Amended)** The method as set forth in claim 20, further comprising the
step of:

terminating the tracking when a setup operation is carried out between the terminal and a
different base station other than the base stations installed and managed on the highway;
~~terminating the tracking~~.

26. (Original) The method as set forth in claim 25, wherein the tracking is terminated

when the setup operation is carried out between the terminal and the different base station other than the base stations installed and managed on the highway twice or more.

27. (Original) The method as set forth in claim 19, wherein the step of producing the average speed per hour between the base stations comprises the step of: grouping two to seven base stations and producing the average speed in a predetermined section.

28. (Original) The method as set forth in claim 20, wherein the base stations installed and managed on the highway have one sector dedicatedly assigned for the highway.

29. (Original) A method for obtaining traffic information using billing information, comprising the steps of:

setting a reference value of a traffic state according to the number of generated telephone calls associated with a corresponding base station on a time zone-by-zone basis;

extracting telephone calls associated with the base station at predetermined time intervals;

comparing the number of the extracted telephone calls with the reference value; and

setting a traffic class of a corresponding base station area according to an increase or decrease based on a result of the comparison.

30. (Original) The method as set forth in claim 29, wherein the base station is installed and managed on a highway.

31. (Original) The method as set forth in claim 30, wherein the base station installed and managed on the highway has one sector dedicatedly assigned for the highway.

32. (Original) The method as set forth in claim 30, wherein the predetermined time intervals are 5-minute intervals.